

LIST OF CLAIMS

Claims 1 - 5 (Cancelled)

Claims 6 - 21 (Withdrawn)

Claims 22 - 23 (Allowed)

Claims 24 - 27 (Withdrawn)

Claims 28 - 33 (Cancelled)

Claims 34 - 37 (Allowed)

Claims 38 - 40 (Cancelled)

Claims 41 - 49 (New)

6. (Withdrawn) A coupler for continuous drilling while adding or removing tubulars to and from a drill string comprising:

(a) a coupler comprising a fluid sealed housing and means for introducing and evacuating drilling fluid from said housing;

(b) upper slip means for securing said tubular against upward movement;

(c) openable and closeable divider means in said housing defining upper and lower chambers in said housing; and

(d) means for moving said tubular downwardly into rotational contact with said drill string for securing said tubular and said drill string together.

7. (Withdrawn) The coupler of Claim 6 wherein said upper slip means are positioned within said housing.

8. (Withdrawn) The coupler of Claim 6 wherein said upper slip means are positioned outside of said housing.

9. (Withdrawn) The coupler of Claim 6 in combination with a rotary table, and in which said coupler is positioned below said rotary table.

10. (Withdrawn) The coupler of Claim 6 including upper grip means.

11. (Withdrawn) The coupler of Claim 10 including power means for opening said divider means for a distance sufficient for said upper slip means and said upper grip means to pass through said divider means.

12. (Withdrawn) The coupler of Claim 6 wherein said coupler includes means for flushing said housing.

13. (Withdrawn) The coupler of Claim 12 wherein said means for flushing flushes said housing at one time with circulating mud and at another time with air or water.

14. (Withdrawn) The coupler of Claim 6 including means for positioning said coupler under the sea.

15. (Withdrawn) The coupler of Claim 6 including means for rotating an individual tubular and said drill string in relatively opposite directions.

16. (Withdrawn) The coupler of Claim 15 wherein said means for rotating said tubular and said drill string rotate in the same direction at differential speeds.

17. (Withdrawn) The coupler of Claim 6 including upper and lower grip means for gripping said tubular and said drill string respectively.

18. (Withdrawn) A method for drilling wells in which a drill bit is rotated at the end of a drill string comprising tubular members joined together and mud is circulated through the drill string, in which method tubular members are secured against upward movement as they are added to or removed from the drill string, and continuing the circulation of mud while said tubular members are connected or disconnected from said drill string.

19. (Withdrawn) A method as claimed in Claim 18 including the step of sealing the circulating mud from the environment whilst the mud is circulating.

20. (Withdrawn) A method as claimed in Claim 18 in which there is a coupler which connects the tubulars together, and mud at full well pressure is supplied in the immediate vicinity of the tubular connection which is about to be broken such that the flow of mud overlaps with flow of mud flowing downwardly through the tubular and, as the tubular separates from the drill string, the flow of mud to the separated tubular is stopped.

21. (Withdrawn) A method as claimed in Claim 20 in which the separated tubular is totally separated from the drill string by the closure of a blind preventer or similar device.

22. (Allowed) A system comprising:

(a) first and second couplers;

(b) first and second hoist means connected to said first and second couplers for raising and lowering said first and second couplers individually; and

(c) power means for raising and lowering said hoist means for performing hand-over-hand motions of said first and second couplers.

23. (Allowed) A system as claimed in Claim 22 wherein said power means raise and lower said first and second couplers and moves them horizontally in alternate steps to perform said hand-over-hand motions of said couplers.

24. (Withdrawn) An assembly for connection or disconnection a tubular to or from a drill string comprising:

- (a) a well head;
- (b) a BOP stack mounted above said well head;
- (c) a coupler mounted above said BOP stack;
- (d) said coupler comprising a fluid-tight chamber;
- (e) an upper annular preventer;
- (f) upper grip means for engaging a tubular and lower grip means for engaging a drill string;
- (g) a blind ram preventer or diverter positioned in said chamber;
- (h) lower grip means and slip means for engaging a drill string to which said tubular is to be connected; and
- (i) a lower annular preventer.

25. (Withdrawn) The assembly as claimed in Claim 24 wherein said housing includes fluid entry means for supplying drilling fluid into said housing and through said drill string continuously during connecting and disconnecting said coupler.

26. (Withdrawn) The assembly of Claim 25 wherein said upper and lower grip means are located with said housing.

27. (Withdrawn) The assembly of Claim 25 wherein said upper and lower grip means are located outside of said housing.

34. (Allowed) A system comprising:

(a) first and second couplers;

(b) first and second hoist means connected to said first and second couplers for raising and lowering said first and second couplers individually; and

(c) power means for raising and lowering said hoist means for raising and lowering said first and second couplers and move them horizontally in alternate steps to perform hand-over-hand motions of said couplers.

35. (Allowed) The system of Claim 34 including:

(a) a well head;

(b) a BOP stack mounted above said well head;

(c) said couplers comprising fluid-tight chambers;

(d) each coupler including an upper annular seal;

(e) each coupler including upper grip means for engaging a tubular and lower grip means for engaging a drill string;

(f) each coupler including divider means forming two portions in said chamber;

(g) each coupler including lower grip means and slip means for engaging a drill string to which said tubular is to be connected and lower annular preventers.

36. (Allowed) A system comprising:

(a) first and second couplers;

(b) first and second hoist means connected to said first and second couplers for raising and lowering said first and second couplers individually; and

(c) power means for raising and lowering said hoist means, and moving them horizontally for performing hand-over-hand motions of said first and second couplers.

37. (Allowed) The system of Claim 36 wherein each of said first and second couplers include sealed housings and means for introducing drilling fluid into said housing.

41. (New) A system comprising:

(a) first and second couplers;

(b) first and second hoist means connected to said first and second couplers for raising and lowering said first and second couplers individually;

(c) power means for raising and lowering said hoist means for performing hand-over-hand motions of said first and second couplers;

(d) each of said first and second couplers including fluid sealed housings and means for introducing and evacuating drilling fluid from said housings;

(e) upper slip means connected to each of said couplers for securing a tubular against upward movement;

(f) openable and closeable divider means in said housings defining upper and lower chambers in said housing; and

(g) means of moving said tubular downwardly into rotational contact with said drill string for securing said tubular and said drill string together.

42. (New) The system of Claim 41 in combination with a rotary table, and in which said coupler is positioned below said rotary table.

43. (New) The coupler of Claim 41 including power means for opening said divider means for a distance sufficient for said upper slip means and said upper grip means to pass through said divider means.

44. (New) The coupler of Claim 41 including means for rotating an individual tubular and said drill string in relatively opposite directions.

45. (New) The coupler of Claim 44 wherein said means for rotating said tubular and said drill string rotate in the same direction at differential speeds.



46. (New) The coupler of Claim 41 including upper and lower grip means connected to each of said housings for gripping said tubular and said drill string respectively.

47. (New) The system of Claim 46 including upper slip means for securing a tubular against upward movement.

48. (New) The system of Claim 47 wherein each of said couplers include openable divider means and power means for opening said divider means a distance sufficient to pass said upper slip means.

49. (New) The system of Claim 41 in combination with:

- (a) a well head;
- (b) a BOP stack mounted above said well head;
- (c) said couplers comprising fluid-tight chambers;
- (d) each coupler including an upper annular preventer;
- (e) upper grip means for engaging a tubular and lower grip means for engaging a drill string;
- (f) blind ram preventers or diverters positioned in said chambers;
- (g) each coupler including lower grip means and slip means for engaging a drill string to which said tubular is to be connected.